Transportation and Climate Change

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1000 Friends of Wisconsin
1000 Friends of Wisconsin

• 1000 Friends of Wisconsin advocates and promotes uses of land, water and air that shape healthy communities where people want to live, work, and play.

• Our work focuses on helping communities make the connection between our everyday land use and transportation decisions and our state’s economic, environmental and cultural health.

www.1kfriends.org
Carbon Emissions from Transportation

• 2nd largest contributor to climate change emissions worldwide
• Fastest growing emitter of carbon emissions worldwide
• 95% of the world’s transportation energy comes from fossil fuels - gasoline and diesel
Worldwide Transport Emissions by 2050

- **United States**: 670 megatons (Today), 560 megatons (2050)
- **China**: 1200 megatons (2050)
- **India**: 70 megatons (Today), 500 megatons (2050)
US Carbon Emissions by Sector

Total Emissions in 2012 = 6,526 Million Metric Tons of CO2 equivalent

- Transportation, 28%
- Industry, 20%
- Electricity, 32%
- Agriculture, 10%
- Commercial and Residential, 10%
US Transport Emissions by Mode (2012)

- Passenger cars and light trucks: 61%
- Medium and heavy duty trucks: 22%
- Aircraft: 8%
- Ships and boats: 3%
- Others: 6%

Source: US EPA
Emissions in the Midwest

Source: World Resources Institute
Transportation’s Share of Carbon Emissions in the Midwest

Source: World Resources Institute
Other Impacts

- In addition to carbon, globally air pollution from transportation is responsible for 3.2 million deaths, annually.

- Increases likelihood of asthma and cardiovascular disease.

- Future growth in traffic projected to increase deaths *four fold.*
Other Impacts

- 1.24 million deaths worldwide from traffic accidents
- 33,561 deaths from traffic accidents in the US alone in 2012
- Significant links to obesity, car-use and car-oriented development
Historically, we have driven more miles each year since the 60’s
And here is why...
Baby Boomers Were Driving More
More Women entered the Workforce

Today I cleaned the house, did the laundry, bathed the kids and landed the Hollister account!

What's for dinner, honey?
Car-oriented land use patterns
Sustained efforts to prioritize car travel over other modes
However, things are changing

Decade long fall in VMT
Young People are Putting off Getting Drivers Licenses

"I drive less because the Internet takes me anywhere I want to go. And services like Netflix provide entertainment at the touch of a button. It’s also a lot more affordable."

Survey Response – TransportationNation.com
We are getting older... and the elderly drive less.

Source: Sightline Institute
Public Transit Ridership is at its highest in 57 years

Record 10.7 billion trips taken in 2013

“There is a fundamental shift the way we move... People in record numbers are demanding more public transit services and communities are benefiting with strong economic growth,” American Public Transit Association President and CEO Michael Melaniphy.

Source: APTA
People are Biking more than Ever Before

The number of miles biked on America’s streets and bike paths per person increased by 33% between 2001 and 2009.

Proportion of workers biking: 2007-2011,
Graphic: USPIRG, Transportation in Transition
People are moving to compact downtowns

A survey by the National Association of Realtors found that young people prefer to live in an area that has nearby shopping, restaurants, schools and public transportation as opposed to urban sprawl.
Wisconsin is no Exception

Vehicle-miles driven in Wisconsin

VMT peaked in 2004

Source: Wisconsin Department of Transportation
Wisconsin is no Exception

Projected change in population by age group, 2010-2040

Source: Wisconsin Department of Administration
Wisconsin is no Exception - Driving Declines

- Milwaukee and Madison were 2 and 3 respectively in terms of driving declines in the nation between 2006 and 2011
  - Milwaukee – 20.9% decline
  - Madison – 17.7% decline

Transportation in Transition, USPIRG, 2013
Wisconsin is no Exception

Percentage of young people with drivers licenses 2000 and 2012

Source: Wisconsin Department of Transportation
Wisconsin is no Exception - Biking

- Madison: up 88%, 2004-2012
- Sheboygan County: up 43% since 2009
- Milwaukee County: up 107% since 2000

0.75% of all Wisconsin Commuters use bikes to get to work, which is 50% greater than the national average.
Moving away from driving is key to reducing carbon emissions

• Investing in clean transportation in urban areas worldwide could reduce emissions by 40% by 2050 according to a new UN report.

• This strategy is also the most affordable, saving approximately $100 trillion in public and private capital and operating costs.
However...

State Departments of Transportation are mostly unresponsive to these changes
DoTs continue gargantuan highway expansion projects

ILLIANA DECISION
Officials have chosen the following route for the proposed Illiana Expressway:

Freeway plan aims to reduce congestion
The latest Department of Transportation freeway expansion proposals drop the least expensive and intrusive plans in favor of more forward-looking solutions. There are many stakeholders between N. 25th St. and N. 70th St. (areas shown below in red) and one solution includes double-decking the highway through portions of the reconstruction zone.

1. Story Hill neighborhood
2. Mount Calvary Cemetery
3. Beth Hemerodsh Hagodol Cemetery
4. Spring Hill Cemetery
5. Anshe Lebowit Cemetery
6. Wood National Cemetery
7. Veteran's Affairs grounds
8. Zablocki VA Medical Center
9. Miller Park
10. Menomonee Valley Business Park
11. Mitchell Park

Journal Sentinel
Transit budgets have been slashed

State budget cuts transit funding,

New report: Transit service cuts and fare increases devastate cities and towns

UPDATE: High Speed Rail Dead In Wisconsin

Iowa City Proposes Cuts to Public Transit for Elderly, Disabled

By Gregg Hennigan, Reporter
Less money is being reimbursed to local governments

WISDOT local road assistance
User fees include the gas tax, transit farebox recover and vehicle registration fees

Non user fees are primarily sourced from property taxes
Several state policy barriers

- Implementing RTA’s
- Complete streets laws
- Using flexible federal funds for bike/ped infrastructure or transit
- Giving communities control over their transportation spending
- Revising zoning codes to be less auto-centric
- Considering all alternatives to highway expansion
A Word on Equity

Frontline communities are most affected by climate change

• Milwaukee transit cuts left between 20,000-30,000 with no access to jobs

• New highway expansions often affect the underprivileged negatively, while allowing the privileged to access destinations faster

• Gentrification and rising rent forces people who’ve lived in neighborhoods for generations out
Strategies
Better Land-use and Transportation Planning

- Move away from separated land uses
- Denser, mixed use developments are more efficient
- Compact and infill development must be encouraged in zoning codes
# Managing Travel Demand

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<tr>
<th>Strategy</th>
<th>Modal Share Impact</th>
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<tr>
<td>Congestion Pricing</td>
<td>London: 37% vehicle speed increase, 30% decrease in peak period delays; 50% decrease in bus delay. 14-30% increase in transit ridership (London, Stuttgart, Singapore)</td>
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<td>High Capacity Transit</td>
<td>20-72% of new riders shifted mode from auto</td>
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<td>Parking Management</td>
<td>40-50% reduction in parking demand under peak period and long term parking pricing increases; SOV mode share 16%-25% lower when employees paid for parking.</td>
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<td>Transportation efficient Development</td>
<td>25-24% Single Occupancy Vehicle reduction</td>
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Emission Standards and Cleaner Fuels

- Increasing the use of biofuels
- Retrofitting public transit fleets to use natural gas/biofuels
- Investing in the infrastructure needed to have a robust clean fuels network
Invest in Public Transit
Investing in a Midwest High Speed Rail System

• Cut travel time between major cities by 30 to 50 percent.

• Deliver $23 billion in benefits, including reduced emissions.

• By 2020, the system would divert about 1.3 million trips from air travel, and 5.1 million trips from cars.

Image: Midwest High Speed Rail Association
Fixing our zoning codes

Conventional Zoning

Use
Operations
FORM

Focused on use

Form-Based Codes

FORM
Operations
USE

More focus on design and form
Better connecting highway design and traffic safety

• Wider roads are not necessarily safer – instead can spawn higher speeds and greater carbon emissions.

• Focus on ‘context-sensitive’ that provides visual cues to enable drivers to make safer maneuvering decisions.
Transit Oriented Development

• Integrate public transportation with surrounding land uses.

• Implement policies that allow the growth of residences, places of work and entertainment around transit stops.

• Successful TOD increases transit ridership and reduces driving demand and associated carbon emissions.
Questions?